


```

L25      69540 SEA FILE=HCAPLUS ABB=ON PLU=ON (QUATERNARY OR
          QUATERNARY) (A) (AMINE OR AMMONIUM)
L26      199071 SEA FILE=HCAPLUS ABB=ON PLU=ON "QUATERNARY AMMONIUM
          COMPOUNDS"+PFT, OLD, NT/CT
L27      199071 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 OR L26
L28      232 SEA FILE=HCAPLUS ABB=ON PLU=ON L14
L29      2 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND (L23 OR L27)
L30      1 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND L25
L31      8 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 OR L29 OR L30
L32      37 SEA FILE=HCAPLUS ABB=ON PLU=ON ("BARTSOV, VLADIMIR"/A
          U OR "BELAKHOV, VALERY"/AU OR "KVITNITSKY, EMMA"/AU OR
          "SHAPIRO, YURY"/AU)
L33      QUE ABB=ON PLU=ON BARTSOV V7/AU
L34      QUE ABB=ON PLU=ON BELAKHOV V7/AU
L35      QUE ABB=ON PLU=ON KVITNITSKY E7/AU
L40      QUE ABB=ON PLU=ON SHAPIRO Y7/AU
L41      466 SEA FILE=HCAPLUS ABB=ON PLU=ON (L33 OR L34 OR L35)
          OR L40
L42      5 SEA FILE=HCAPLUS ABB=ON PLU=ON ((L33 OR L34 OR L35))
          AND L40
L43      4 SEA FILE=HCAPLUS ABB=ON PLU=ON "TAGRA BIOTECHNOLOGIES
          LTD ISRAEL"/PA, CS, SO, CO
L44      4 SEA FILE=HCAPLUS ABB=ON PLU=ON (L32 OR L41) AND L43
L45      5 SEA FILE=HCAPLUS ABB=ON PLU=ON L42 OR L44
L46      37 SEA FILE=HCAPLUS ABB=ON PLU=ON L45 OR L32
L47      QUE ABB=ON PLU=ON ASCORB? OR VIT OR VITAM?
L48      5 SEA FILE=HCAPLUS ABB=ON PLU=ON L46 AND L47
L49      1 SEA FILE=HCAPLUS ABB=ON PLU=ON L46 AND L31
L50      5 SEA FILE=HCAPLUS ABB=ON PLU=ON (L48 OR L49)

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=> d his 160

(FILE 'MEDLINE, BIOSIS, DRUGU, EMBASE' ENTERED AT 09:49:19 ON 04
JAN 2008)

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L60      1 S (L33-L35) AND (L40 OR L36)

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=> d que 160

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L33      QUE ABB=ON PLU=ON BARTSOV V7/AU
L34      QUE ABB=ON PLU=ON BELAKHOV V7/AU
L35      QUE ABB=ON PLU=ON KVITNITSKY E7/AU
L36      QUE ABB=ON PLU=ON SHAPIRO Y7/AU
L40      QUE ABB=ON PLU=ON SHAPIRO Y7/AU
L60      1 SEA ((L33 OR L34 OR L35)) AND (L40 OR L36)

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=> dup rem 150 160

FILE 'HCAPLUS' ENTERED AT 09:59:05 ON 04 JAN 2008
USE IS SUBJECT TO THE TERMS OF YOUR STM CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE 'BIOSIS' ENTERED AT 09:59:05 ON 04 JAN 2008

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PROCESSING COMPLETED FOR L50

PROCESSING COMPLETED FOR L60

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L63      6 DUP REM L50 L60 (0 DUPLICATES REMOVED)
          ANSWERS '1-5' FROM FILE HCAPLUS
          ANSWER '6' FROM FILE BIOSIS

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INVENTOR SEARCH RESULTS

=> d 163 1-6 ibib ed ab

L63 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2006:213061 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:280610
 TITLE: Microencapsulation with wall-forming polymer
 for controlled release of active ingredient
 Kvitnitsky, Emma; Shapiro,
 Yury; Privalov, Olga; Oleinik, Irena;
 Polisher, Igor
 INVENTOR(S): Tsagra Biotechnologies Ltd., Israel
 PATENT ASSIGNEE(S): U.S. Pat. Appl. Publ., 26 pp., Cont.--in-part
 SOURCE: of U.S. Ser. No. 130,529.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006051425	A1	20060309	US 2005-208007	2005 0822
GB 2356386	A	20010523	GB 1999-27202	1999 1117
WO 2001035933	A2	20010525	WO 2000-IL759	2000 1116
WO 2001035933	A3	20011018		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CH, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SH, TD, TG				
US 6932984	B1	20050823	US 2002-130529	2000 1116
WO 2007023495	A2	20070301	WO 2006-IL977	2006 0822
WO 2007023495	A3	20070705		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SH, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SE, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AF, EA, EP, OR				
PRIORITY APPLN. INFO.:			GB 1999-27202	A

1999

1117

US 2002-130529

A2

2000

1116

WO 2000-IL759

W

2000

1116

US 2005-208007

A

2005

0822

ED Entered STN: 09 Mar 2006

AB The present invention provides methods for microencapsulation of active ingredients for topical application, whereby single-layer and multi-layer, preferably double-layer, microcapsules are obtained. The microcapsules protect the active ingredients, maintain their original activity through processing, formulation and storage, and enable controlled release of the active ingredient only upon application onto the skin. For example, encapsulation of antibiotic clarithromycin into single-layered microcapsules with an outer polymer-plasticizer shell was carried out. At the first stage, the microcapsules containing clarithromycin were prepared by adding 4 g clarithromycin to 12 g Et cellulose and 4 g Eudragit E 100 solution in 92 g Et acetate. The solution was poured, while stirring, into aqueous solution prepared by saturation of 300 mL water containing 1.5 g PVA with 35 mL Et acetate. The obtained emulsion was poured into 3.2 L water containing 1.5 g PVA, while stirring, and incubated for a period of 10 to 15 min at 20° for extraction of Et acetate and microcapsules formation. The formed microcapsules were separated by sedimentation, washed with 10% aqueous solution of ethanol and dried at a temperature not higher than 20° to get a free flowing powder. The outer diameter of the microcapsules was in the range of 30 to 60 μ m.

L63 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:402917 HCAPLUS Full-text

DOCUMENT NUMBER: 147:78915

TITLE: Tagravir microcapsules as controlled drug delivery devices and their formulations
 Kvitnitsky, Emma; Lerner, Natalia; Shapiro, Yuri E.

CORPORATE SOURCE: Tagra Biotechnologies, Ltd., Netanya, Israel
 SOURCE: Delivery System Handbook for Personal Care and Cosmetic Products (2005), 215-258. Editor(s): Rosen, Meyer R. William Andrew, Inc.: Norwich, N. Y.

CODEN: 69JCU6; ISBN: 0-8155-1504-9

DOCUMENT TYPE: Conference; General Review

LANGUAGE: English

ED Entered STN: 12 Apr 2007

AB A review on the use of Tagravir microcapsules as controlled drug delivery devices and their formulations. An overview of microencapsulation as a delivery method for unstable actives is presented, and contemporary microencapsulation techniques are discussed, along with preparation of microcapsules for skin applications, microencapsulation of unstable lipophilic actives, stability determination of microencapsulated vitamins in various formulations, model formulations developed for stability testing of Tagravir microencapsulated products, effect of formulation on stability of microencapsulated vitamins, effect of loaded amount of encapsulated retinol, and incorporation of Tagravir/Tagrol microcapsules into cosmetic formulations. Model and recommended formulations are given.

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:927163 HCAPLUS Full-text

DOCUMENT NUMBER: 141:395760
 TITLE: Preparation of stabilized derivatives of ascorbic acid as a source of vitamin C in pharmaceutical, nutrition, and cosmetic compns.
 INVENTOR(S): Kvitnitsky, Emma; Belakhov, Valery; Babssov, Vladimir; Shapiro, Yuri
 PATENT ASSIGNEE(S): Tagra Biotechnologies Ltd., Israel
 SOURCE: PCT Int. Appl., 22 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004094369	A2	20041104	WO 2004-IL343	2004 0421
WO 2004094369	A3	20050203		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GH, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004232556	A1	20041104	AU 2004-232556	2004 0421
CA 2523042	A1	20041104	CA 2004-2523042	2004 0421
EP 1620419	A2	20060201	EP 2004-728625	2004 0421
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
BR 2004009628	A	20060425	BR 2004-9628	2004 0421
CN 1805948	A	20060719	CN 2004-80016502	2004 0421
JP 2006524234	T	20061026	JP 2006-507614	2004 0421
MX 2005PA11269	A	20060124	MX 2005-PA11269	2005 1020
IN 2005DN04807	A	20070817	IN 2005-DN4807	2005 1020
US 2007167517	A1	20070719	US 2007-553757	2007 0103
PRIORITY APPLN. INFO.:			US 2003-464097P	P 2003 0421

WO 2004-IL343

W

2004
0421

OTHER SOURCE(S): MARPAT 141:395760

ED Entered STN: 04 Nov 2004

AB Ascorbic acid derivs. I, wherein R1 is a C2-C22 acyl group, an amino acid group, or a C1-C17 alkyl group; R2 is ammonium or a metal cation; and each of R3 or R4, independently, is hydrogen, a C2-C22 acyl group, an amino acid residue, or a C1-C17 alkyl group, are more stable than ascorbic acid and can be used as a source of vitamin C in pharmaceutical, nutrition, and cosmetic compns. Thus, sodium salt of 2-palmitoyl-ascorbic acid was prepared. Stimulation of collagen synthesis in primary human foreskin fibroblasts by ascorbic acid derivs. L-Ascorbic acid stimulates collagen synthesis in cultured human skin fibroblasts. Ascorbate contributes to several metabolic processes including efficient hydroxylation of hydroxyproline in collagen synthesis. The ascorbic acid derivs. are expected to show an effectiveness comparable to that of L-ascorbic acid or better, on collagen synthesis. The cosmetic composition of title compds. for use as moisturizing cream, antiaging cream, anti-wrinkle cream, sunscreen cream, skin whitening and for stimulating collagen synthesis.

L63 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:97424 HCAPLUS Full-text

DOCUMENT NUMBER: 138:158807

TITLE: Preparation of stabilized derivatives of ascorbic acid-3-phosphate

INVENTOR(S): Babtsov, Vladimir; Shapiro, Yury; Kvitnitsky, Emma; Belakhov, Valery

PATENT ASSIGNEE(S): Tegra Biotechnologies Ltd., Israel

SOURCE: PCT Int. Appl., 24 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003010173	A1	20030206	WO 2001-IL690	2001 0726
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2001282428	A1	20030217	AU 2001-282428	2001 0726
EP 1409494	A1	20040421	EP 2001-961047	2001 0726
EP 1409494	B1	20060405		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2004536872	T	20041209	JP 2003-515532	2001 0726
AT 322498	T	20060415	AT 2001-961047	

ES 2261458	T3	20061116	ES 2001-1961047	2001 0726
US 2004242544	A1	20041202	US 2004-484689	2001 0726
US 7045546	B2	20060516		2004 0715
HK 1063473	A1	20061013	HK 2004-106221	
PRIORITY APPLN. INFO.:			EP 2001-961047	A 2001 0726
			WO 2001-IL690	W 2001 0726

ED Entered STN: 07 Feb 2003

AB Novel derivs. of ascorbic acid and compns. comprising them are provided. Claimed are the ascorbic acid derivs. I, where R1 is a C2-22 saturated or unsatd. fatty acid residues, amino acid residues, or a C1-17 alkyl; R2 is P:(O)(OR5)(OR6), wherein R5 and R6 are the same or different and represent H, a C1-4 alkyl, or R5 is C1-4 alkyl and R6 is a metal cation or ammonium cation; R3 and R4 are the same or different and represent H, C2-22 saturated or unsatd. fatty acid residues, amino acid residues, or a C1-17 alkyl. The compds. are formulated for topical or oral administration for treating or controlling diseases or conditions associated with vitamin C deficiency. 2-Capryloyl-3-ethylphosphoryl ascorbic acid was prepared and its collagen synthesis stimulating effects in primary human foreskin fibroblasts were in vitro tested.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L63 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:380375 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 134:371800

TITLE: A method of microencapsulation of active substances

INVENTOR(S): Babtsov, Vladimir; Shapiro,

Yury; Kvintitsky, Emma

PATENT ASSIGNEE(S): Tagra Biotechnologies Ltd., Israel

SOURCE: PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2001035933	A2	20010525	WO 2000-IL759	2000 1116
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WO 2001035933	A3	20011018		
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SH, TD, TG

10/553,757

GB 2356386	A	20010523	GB 1999-27202	1999 1117
CA 2389688	A1	20010525	CA 2000-2389688	2000 1116
BR 2000015612	A	20020716	BR 2000-15612	2000 1116
EP 1231904	A2	20020821	EP 2000-974775	2000 1116
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003514008	T	20030415	JP 2001-537926	2000 1116
AU 774354	B2	20040624	AU 2001-12986	2000 1116
US 6932984	B1	20050823	US 2002-130529	2000 1116
ZA 2002003697	A	20030509	ZA 2002-3697	2002 0509
IN 2002DN00488	A	20040228	IN 2002-DN488	2002 0510
MX 2002PA04919	A	20031014	MX 2002-PA4919	2002 0516
US 2006051425	A1	20060309	US 2005-208007	2005 0822
IN 2005DN04580	A	20070824	IN 2005-DN4580	2005 1010
PRIORITY APPLN. INFO.:			GB 1999-27202	A 1999 1117
			US 2002-130529	A2 2000 1116
			WO 2000-IL759	W 2000 1116
			IN 2002-DN488	A3 2002 0510

ED Entered STN: 27 May 2001

AB A method for microencapsulation of pharmacol. active substances is provided. The substance(s) is/are dissolved or dispersed in an organic solvent of the kind that is partially miscible with water media. This organic solution is then mixed with an aqueous solution, which is saturated with an organic solvent and an emulsifier to form an emulsion. The emulsion is then poured into water under continuous agitation for the extraction of residual solvent. The formation of the solid capsules takes place during this extraction process. The capsules are subjected to further purification, whereby the microcapsules can be separated from the water and dried. By conditions of incubation of microcapsules in water-containing formulations the wall-softening process takes place. The unique system for controlled release of the ingredients from microcapsules is based on the above-mentioned process. An aqueous phase was prepared by dissolving 0.5 g sodium lauryl sulfate in water saturated with EtOAc. An organic

phase was prepared by dissolving 0.25 g vitamin F in a mixture of natural triglycerides, an antioxidant, and PMMA. The resulting microcapsules were filtered, washed with water and dried at $\leq 20^\circ$.

L63 ANSWER 6 OF 6 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation
on STN

ACCESSION NUMBER: 2006:552528 BIOSIS Full-text

DOCUMENT NUMBER: PREV200600565427

TITLE: Stabilized derivatives of ascorbic acid-3-phosphate.

AUTHOR(S): Anonymous; Babssov, Vladimir [Inventor];
Shapiro, Yury [Inventor]; Kvitnitsky,
Elena [Inventor]; Belakhov, Valery
[Inventor]

CORPORATE SOURCE: Kiryat Shmona, Israel
ASSIGNEE: Tagra Biotechnologies Ltd

PATENT INFORMATION: US 07045546 20060516

SOURCE: Official Gazette of the United States Patent and
Trademark Office Patents, (MAY 16 2006)
CODEN: OGPUPE7. ISSN: 0098-1133.

DOCUMENT TYPE: Patent

LANGUAGE: English

ENTRY DATE: Entered STN: 27 Oct 2006

Last Updated on STN: 27 Oct 2006

ED Entered STN: 27 Oct 2006

Last Updated on STN: 27 Oct 2006

AB Novel derivatives of ascorbic acid and compositions comprising them are provided. The novel derivatives are of the following general formula (I): where R1 is a C2-C22 saturated or unsaturated fatty acid residues, amino acid residues, or a C1-C17 alkyl ; R2 is a group of the following formula (II) wherein R5 or R6 are the same or different and represent hydrogen, a C1-C4 alkyl, or R5 is C1-C4 alkyl group and R6 is a metal cation or ammonium cation; R3 or R4 are the same or different and represent hydrogen, C2-C22 saturated or unsaturated fatty acid residues, amino acid residues, or a C1-C17 alkyl.

STRUCTURE SEARCH

=> d his l31

(FILE 'HCAPLUS' ENTERED AT 09:11:01 ON 04 JAN 2008)

L31 8 S L22 OR L29 OR L30

=> d que stat l31

L8 STR



VAR G1=AK/N

VAR G2=OH/15/17

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 8

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

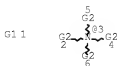
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L14 275 SEA FILE=REGISTRY SSS FUL L8

L15 4 SEA FILE=REGISTRY ABB=ON PLU=ON L14 AND 1/M

L16 STR



VAR G1=3/M

VAR G2=H/AK

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L18 25 SEA FILE=REGISTRY SUB=L14 SSS FUL L16

L19 5 SEA FILE=REGISTRY ABB=ON PLU=ON L18 AND 2/NC

L20 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L19

L21 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L15

L22 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 OR L21

L23 1 SEA FILE=HCAPLUS ABB=ON PLU=ON (QUATERNARY+PFT, OLD, NT/CT OR
 CT OR "QUATERNARY AMMONIUM COMPOUNDS"+PFT, OLD, NT/CT OR
 "QUATERNARY AMMONIUM COMPOUNDS, USES AND MISCELLANEOUS"+
 PFT, OLD, NT/CT)

L24 41057 SEA FILE=HCAPLUS ABB=ON PLU=ON "QUATERNARY AMINES"+PFT,
 T, OLD, NT/CT

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L25      69540 SEA FILE=HCAPLUS ABB=ON PLU=ON (QUATERNARY OR
          QUATERNARY) (A) (AMINE OR AMMONIUM)
L26      199071 SEA FILE=HCAPLUS ABB=ON PLU=ON "QUATERNARY AMMONIUM
          COMPOUNDS"+PFT, OLD, NT/CT
L27      199071 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 OR L26
L28      232 SEA FILE=HCAPLUS ABB=ON PLU=ON L14
L29      2 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND (L23 OR L27)
L30      1 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND L25
L31      8 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 OR L29 OR L30

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=> d his l54

(FILE 'MEDLINE, BIOSIS, DRUGU, EMBASE' ENTERED AT 09:42:36 ON 04
JAN 2008)

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L54      1 S L53 AND (L25 OR CATION? OR ION OR IONIC)
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=> d que stat l54

L8 STR



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VAR G1=AK/N
VAR G2=OH/15/17
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 8
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

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STEREO ATTRIBUTES: NONE

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L14      275 SEA FILE=REGISTRY SSS FUL L8
L25      69540 SEA FILE=HCAPLUS ABB=ON PLU=ON (QUATERNARY OR
          QUATERNARY) (A) (AMINE OR AMMONIUM)
L51      3 SEA FILE=REGISTRY ABB=ON PLU=ON L14 AND (MEDLINE/LC
          OR BIOSIS/LC OR DRUGU/LC OR EMBASE/LC)
L53      100 SEA L51
L54      1 SEA L53 AND (L25 OR CATION? OR ION OR IONIC)

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=> dup rem l31 l54

PROCESSING COMPLETED FOR L31

PROCESSING COMPLETED FOR L54

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L64      9 DUP REM L31 L54 (0 DUPLICATES REMOVED)
          ANSWERS '1-8' FROM FILE HCAPLUS
          ANSWER '9' FROM FILE BIOSIS

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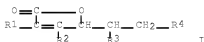
STRUCTURE SEARCH HISTORY

=> d 164 1-8 ibib ed abs hitstr hitind

L64 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2007:933538 HCAPLUS Full-text
 DOCUMENT NUMBER: 147:285286
 TITLE: Polymer compositions containing ascorbates for wound healing, and their products
 INVENTOR(S): Yanagi, Kotaro; Ito, Shinobu; Komura, Makoto
 PATENT ASSIGNEE(S): I.T.O. K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 27pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007209748	A	20070823	JP 2007-6011	2007 0115
JP 2007216041	A	20070830	JP 2007-100558	2007 0406
PRIORITY APPLN. INFO.:			JP 2006-34427	A 2006 0116
			JP 2007-6011	A3 2007 0115

OTHER SOURCE(S): MARPAT 147:285286
 ED Entered STN: 23 Aug 2007
 GI



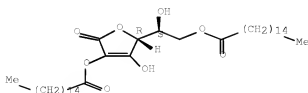
- AB Title compns. for wound healing of biol. tissues contain ascorbates I (R1-R4 = OH, phosphate, pyrophosphate, triphosphate, polyphosphate, O-glucosyl, sulfate, acyloxy, alkylloxy, hydroxyalkylloxy; R1R2 and R3R4 may form acetal or ketal) in biodegradable polymers. The compns. may also contain nonbiodegradable polymers and/or wound healing promoters, antiinflammatory agents, antiinfective agents, and/or radical scavengers. Fibers, fabrics, nonwoven fabrics, films, moldings, gauze, plasters, bandages, bone reinforcements, implants, medical adhesives, adhesive films, cell culture containers, porous structures, hollow-fiber structures containing the polymer compns. are also claimed. Poly(glycolic acid) sutures (Dexon; 1.0 g) were immersed in an aqueous solution containing L-ascorbic acid 2-phosphate Mg salt and dried to give sutures (weight increase 4.9 mg). The tensile strength of wounds in guinea pigs 1 wk after sewing with the sutures was 321 g/cm.
- II 4218-81-9, L-Ascorbic acid 2,6-dipalmitate
 4341-39-3 946491-95-8D, tocopherol derivs.
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ascorbate-containing polymer compns. and their products for wound

healing)

RN 4218-81-9 HCAPLUS

CN L-Ascorbic acid, 2,6-dihexadecanoate (CA INDEX NAME)

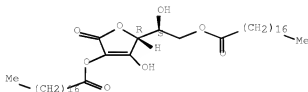
Absolute stereochemistry.



RN 4341-39-3 HCAPLUS

CN L-Ascorbic acid, 2,6-dioctadecanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

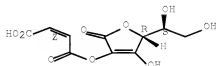


RN 946491-95-8 HCAPLUS

CN L-Ascorbic Acid, 2-[hydrogen (2Z)-2-butenedioate] (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



CC 63-7 (Pharmaceuticals)

IT Quaternary ammonium compounds, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (alkylbenzyltrimethyl, chlorides; ascorbate-containing polymer
 compns. and their products for wound healing)

IT 137-66-6, L-Ascorbic acid 6-palmitate 1306-01-0, Tetracalcium
 phosphate 1306-06-5, Hydroxyapatite 4218-81-9,
 L-Ascorbic acid 2,6-dipalmitate 4341-39-3 7757-93-9,
 Dicalcium phosphate 10103-46-5, Calcium phosphate 23313-12-4,
 L-Ascorbic acid 2-phosphate 23313-12-4D, L-Ascorbic acid
 2-phosphate, tocopherol derivs. 62031-54-3, FGF 68797-35-3,
 Dipotassium glycyrrhizinate 84309-23-9, Ascorbic acid
 2-phosphate magnesium salt 105256-49-3 109620-90-8, L-Ascorbic
 acid 2-phosphate sodium salt, biological studies 129499-78-1,
 L-Ascorbic acid 2-glucoside 161436-56-2 215363-36-3
 244158-48-3, L-Ascorbic acid 2-glucoside 6-stearate 287925-63-7

287925-68-2 287925-69-3, L-Ascorbic acid 2-glucoside 6-palmitate
 459425-33-3 721404-04-2 760171-54-8 872589-81-6
 937275-11-1 946491-93-6 946491-95-8D, tocopherol
 derivs. 946496-86-2
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ascorbate-containing polymer compns. and their products for wound
 healing)

L64 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:927163 HCAPLUS Full-text

DOCUMENT NUMBER: 141:395760

TITLE: Preparation of stabilized derivatives of
 ascorbic acid as a source of vitamin C in
 pharmaceutical, nutrition, and cosmetic
 compns.

INVENTOR(S): Kvitnitsky, Emma; Belakhov, Valery; Babtsov,

Vladimir; Shapiro, Yuri

PATENT ASSIGNEE(S): Tagra Biotechnologies Ltd., Israel

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004094369	A2	20041104	WO 2004-IL343	2004 0421
WO 2004094369	A3	20050203		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GH, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004232556	A1	20041104	AU 2004-232556	2004 0421
CA 2523042	A1	20041104	CA 2004-2523042	2004 0421
EP 1620419	A2	20060201	EP 2004-728625	2004 0421
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
BR 2004009628	A	20060425	BR 2004-9628	2004 0421
CN 1805948	A	20060719	CN 2004-80016502	2004 0421
JP 2006524234	T	20061026	JP 2006-507614	2004 0421
MX 2005PA11269	A	20060124	MX 2005-PA11269	2005 1020

10/553,757

IN 2005DN04807	A	20070817	IN 2005-DN4807	2005 1020
US 2007167517	A1	20070719	US 2007-553757	2007 0103
PRIORITY APPLN. INFO.:			US 2003-464097P	P 2003 0421
			WO 2004-IL343	W 2004 0421

OTHER SOURCE(S): MARPAT 141:395760
 ED Entered STN: 04 Nov 2004
 GI



AB Ascorbic acid derivs. I, wherein R1 is a C2-C22 acyl group, an amino acid group, or a C1-C17 alkyl group; R2 is ammonium or a metal cation; and each of R3 or R4, independently, is hydrogen, a C2-C22 acyl group, an amino acid residue, or a C1-C17 alkyl group, are more stable than ascorbic acid and can be used as a source of vitamin C in pharmaceutical, nutrition, and cosmetic compns. Thus, sodium salt of 2-palmitoyl-ascorbic acid was prepared Stimulation of collagen synthesis in primary human foreskin fibroblasts by ascorbic acid derivs. L-Ascorbic acid stimulates collagen synthesis in cultured human skin fibroblasts. Ascorbate contributes to several metabolic processes including efficient hydroxylation of hydroxyproline in collagen synthesis. The ascorbic acid derivs. are expected to show an effectiveness comparable to that of L-ascorbic acid or better, on collagen synthesis. The cosmetic composition of title compds. for use as moisturizing cream, antiaging cream, anti-wrinkle cream, sunscreen cream, skin whitening and for stimulating collagen synthesis.

IT 657394-76-8P 785814-44-0P

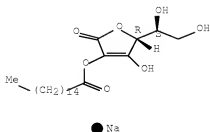
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); COS (Cosmetic use); IMF (Industrial manufacture); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of stabilized derivs. of ascorbic acid as source of vitamin c in pharmaceutical nutrition and cosmetic compns)

RN 657394-76-8 HCAPLUS

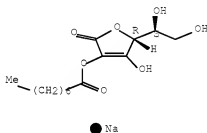
CN L-Ascorbic acid, 2-hexadecanoate, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 785814-44-0 HCAPLUS
 CN L-Ascorbic acid, 2-octanoate, monosodium salt (9CI) (CA INDEX
 NAME)

Absolute stereochemistry.



IC ICM C07D
 CC 33-8 (Carbohydrates)
 Section cross-reference(s): 1, 17, 62, 63
 IT 687394-76-8P 785814-44-0P
 RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); COS (Cosmetic use); IMF (Industrial manufacture); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of stabilized derivs. of ascorbic acid as source of vitamin c in pharmaceutical nutrition and cosmetic compns)

L64 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:931444 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:366426
 TITLE: Preparation of O-ethylascorbic acid in water
 INVENTOR(S): Suetsugu, Masaru; Hiruma, Takuya
 PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

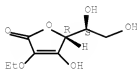
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004307383	A	20041104	JP 2003-102170	2003 0404
PRIORITY APPLN. INFO.:			JP 2003-102170	2003 0404

ED Entered STN: 06 Nov 2004
 AB O-ethylascorbic acid (I) is prepared by ethylation of ascorbic acid (II) with (EtO)2SO2. Thus, L-II was ethylated with (EtO)2SO2 in H2O at 60° and pH 10.5 for 2 h to give 33% L-I.
 IT 1112-67-0, Tetrabutylammonium chloride
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of O-ethylascorbic acid with (EtO)2SO2 in water)
 RN 1112-67-0 HCAPLUS
 CN 1-Butanaminium, N,N,N-tributyl-, chloride (1:1) (CA INDEX NAME)



IT 112894-37-8P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation);
 PREP (Preparation)
 (preparation of O-ethylascorbic acid with (EtO)2SO2 in water)
 RN 112894-37-8 HCAPLUS
 CN L-Ascorbic acid, 2-O-ethyl- (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C07D307-62
 CC 33-8 (Carbohydrates)
 IT 1112-67-0, Tetrabutylammonium chloride
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of O-ethylascorbic acid with (EtO)2SO2 in water)
 IT 112894-37-8P 112894-37-8P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation);
 PREP (Preparation)
 (preparation of O-ethylascorbic acid with (EtO)2SO2 in water)

L64 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2008 ACS ON STN
 ACCESSION NUMBER: 2004:139072 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 140:187016
 TITLE: Discoloration-resistant dentifrices containing
 hydroxy-2-pyridones and water-soluble
 antioxidants
 INVENTOR(S): Hiratsuka, Susumu; Yamamoto, Mizuya; Yamada,
 Ken
 PATENT ASSIGNEE(S): Lion Corp., Japan
 SOURCE: Jpn. Kokai Tokyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004051535	A	20040219	JP 2002-210660	2002 0719
PRIORITY APPLN. INFO.:			JP 2002-210660	2002 0719

OTHER SOURCE(S): MARPAT 140:187016

ED Entered STN: 20 Feb 2004

AB Dentifrices contain hydroxy-2-pyridones or their salts, which inhibit plaque formation, and water-soluble antioxidants (except ascorbic acid and its salts). The water-soluble antioxidants may be ascorbic acid derivs. or their salts. A toothpaste containing 0.5 weight% Na ascorbyl phosphate (I) and 0.2 weight% piroctone olamine showed less discoloration than a control not containing I, after 1-mo storage at 40°.

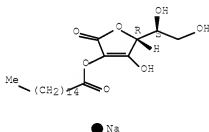
IT 657394-76-8

RL: COS (Cosmetic use); MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (plaque-preventing, discoloration-resistant dentifrices containing hydroxypyridones and water-soluble antioxidants)

RN 657394-76-8 HCAPLUS

CN L-Ascorbic acid, 2-hexadecanoate, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM A61K007-16

CC 62-7 (Essential Oils and Cosmetics)

Section cross-reference(s): 63

IT 53910-28-4, Disodium ascorbyl sulfate 84309-23-9, Ascorbic acid

2-phosphate magnesium salt 109620-90-8, L-Ascorbic acid

2-phosphate sodium salt 128808-26-4, Sodium ascorbyl phosphate

657394-76-8

RL: COS (Cosmetic use); MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (plaque-preventing, discoloration-resistant dentifrices containing hydroxypyridones and water-soluble antioxidants)

L64 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2008 ACS ON STN

ACCESSION NUMBER: 2003:173594 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 138:221850

TITLE: Preparation of novel ascorbic acid lysine and proline derivatives

INVENTOR(S): Rath, Matthias; Niedzwiecki, Aleksandra; Ivanov, Vadim; Netke, Shrirang; Rooml, M. Waheed

PATENT ASSIGNEE(S): Neth.

SOURCE: PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003018568	A2	20030306	WO 2002-EP9451	2002 0823
WO 2003018568	A3	20031204		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RN: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TG, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2458344	A1	20030306	CA 2002-2458344	2002 0823
AU 2002337011	A1	20030310	AU 2002-337011	2002 0823
US 2003119753	A1	20030626	US 2002-226588	2002 0823
US 6864284	B2	20050308		
EP 1423375	A2	20040602	EP 2002-772197	2002 0823
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
ZA 2003004712	A	20040712	ZA 2003-4712	2002 0823
CN 1518545	A	20040804	CN 2002-803018	2002 0823
BR 2002005944	A	20041228	BR 2002-5944	2002 0823
JP 2005501867	T	20050120	JP 2003-523231	2002 0823
CN 1763027	A	20060426	CN 2005-10113687	2002 0823
CN 1763028	A	20060426	CN 2005-10113688	2002 0823
NZ 531430	A	20060526	NZ 2002-531430	2002 0823
HU 2006000084	A2	20060628	HU 2006-84	2002 0823
NZ 542240	A	20060929	NZ 2002-542240	2002 0823
NZ 542241	A	20060929	NZ 2002-542241	2002

10/553,757

RU 2309152	C2	20071027	RU 2004-108687	0823
				2002
				0823
NO 2003001844	A	20030612	NO 2003-1844	2003
				0424
US 2004167077	A1	20040826	US 2004-781296	2004
				0218
US 7230124	B2	20070612		
MX 2004PA01655	A	20040531	MX 2004-PA1655	2004
				0223
IN 2004CN00379	A	20051223	IN 2004-CN379	2004
				0224
PRIORITY APPLN. INFO.:			US 2001-314857P	P
				2001
				0824
			CN 2002-803018	A3
				2002
				0823
			NZ 2002-531430	A1
				2002
				0823
			US 2002-226588	A1
				2002
				0823
			WO 2002-EP9451	W
				2002
				0823

ED Entered STN: 07 Mar 2003

AB L-Ascorbic acid esters with lysine or proline or their derivs. were prepared for use in pharmaceutical compns. Thus, treating 8 mmol L-ascorbic acid with 10 mmol L-lysine in 20 mL sulfuric acid overnight at room temperature afforded L-ascorbyl-6-lysine.

IT 500903-97-9P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of novel ascorbic acid lysinate or prolinatate derivs.)

RN 500903-97-9 HCAPLUS

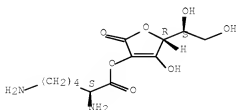
CN L-Lysine, homopolymer, 6-ester with 2-O-[(2S)-2,6-diamino-1-oxohexyl]-L-ascorbic acid (9CI) (CA INDEX NAME)

CM 1

CRN 500893-69-6

CMF C12 H20 N2 O7

Absolute stereochemistry.



CM 2

CRN 25104-18-1
 CMF (C6 H14 N2 O2)x
 CCI PMS

CM 3

CRN 56-87-1
 CMF C6 H14 N2 O2

Absolute stereochemistry.



IC ICM C07D307-32
 ICS A61K031-34
 CC 34-3 (Amino Acids, Peptides, and Proteins)
 Section cross-reference(s): 1, 33, 63
 IT 25213-33-6DP, Poly[(2S)-1,2-pyrrolidinediylcarbonyl], reaction products with 6-deoxybromo ascorbate or 6-deoxyamino ascorbate
 38000-06-5DP, reaction products with 6-deoxybromo ascorbate or 6-deoxyamino ascorbate 62983-44-2DP, reaction products with polylysine or polyproline 85366-70-7DP, reaction products with polylysine or polyproline 498576-94-6P 498576-96-8P
 500893-69-6P 500893-70-9P 500893-71-0P 500893-72-1P
 500893-73-2P 500893-74-3P 500893-75-4P 500893-76-5P
 500893-77-6DP, reaction products with polylysine 500893-78-7DP, reaction products with polyproline 500893-79-8P 500893-80-1P
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 500893-89-0P 500893-90-3P 500893-91-4P 500893-92-5P
 500893-93-6P 500893-94-7P 500893-95-8P 500893-96-9P
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 500904-07-4P 500904-08-5P 500904-09-6P 500904-10-9P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of novel ascorbic acid lysinate or proline derivs.)

L64 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:173419 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 138:221848
 TITLE: Preparation of novel ascorbic acid lysine and proline derivatives
 INVENTOR(S): Roomi, Waheed; Netke, Shrirang; Ivanov, Vadim; Niedzwiecki, Aleksandra
 PATENT ASSIGNEE(S): Rath, Matthias, USA
 SOURCE: PCT Int. Appl., 41 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

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WO 2003018000	A1	20030306	WO 2002-US27060
			2002 0823
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RN: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2002323394	A1	20030310	AU 2002-323394
			2002 0823
US 2003119753	A1	20030626	US 2002-226588
			2002 0823
US 6864284	B2	20050308	
ZA 2003004712	A	20040712	ZA 2003-4712
			2002 0823
CN 1518545	A	20040804	CN 2002-803018
			2002 0823
CN 1763027	A	20060426	CN 2005-10113687
			2002 0823
CN 1763028	A	20060426	CN 2005-10113688
			2002 0823
NZ 542240	A	20060929	NZ 2002-542240
			2002 0823
NZ 542241	A	20060929	NZ 2002-542241
			2002 0823
US 2004167077	A1	20040826	US 2004-781296
			2004 0218
US 7230124	B2	20070612	
PRIORITY APPLN. INFO.:			US 2001-314857P P
			2001 0824
			CN 2002-803018 A3
			2002 0823
			NZ 2002-531430 A1
			2002 0823
			US 2002-226588 A1
			2002 0823
			WO 2002-US27060 W
			2002 0823

AB L-Ascorbic acid esters with lysine or lysine moieties or proline or proline moieties were prepared for use in compns. used to prevent the degradation of extracellular matrix, stabilize connective tissue, as antioxidants, and for treating damage to skin. Thus, treating 8 mmol L-ascorbic acid with 10 mmol L-lysine in 20 mL sulfuric acid overnight at room temperature afforded L-ascorbyl-6-lysine.

IT 500903-97-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of novel ascorbic acid lysinate or proline derivs.)

RN 500903-97-9 HCAPLUS

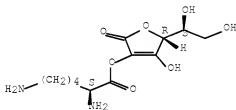
CN L-Lysine, homopolymer, 6-ester with 2-O-[(2S)-2,6-diamino-1-oxohexyl]-L-ascorbic acid (9CI) (CA INDEX NAME)

CM 1

CRN 500893-69-6

CMF C12 H20 N2 O7

Absolute stereochemistry.



CM 2

CRN 25104-18-1

CMF (C6 H14 N2 O2)x

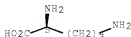
CCI PMS

CM 3

CRN 56-87-1

CMF C6 H14 N2 O2

Absolute stereochemistry.



IC ICM A61K031-34

ICS C07D305-12

CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 33, 62

IT 25213-33-6DP, Poly[(2S)-1,2-pyrrolidinediylcarbonyl], reaction products with 6-deoxybromo ascorbate or 6-deoxyamino ascorbate
38000-06-5DP, reaction products with 6-deoxybromo ascorbate or 6-deoxyamino ascorbate 62983-44-2DP, reaction products with polylysine or polyproline 85366-70-7DP, reaction products with polylysine or polyproline 498576-94-6P, 498576-96-8P
500893-69-6P 500893-70-9P 500893-71-0P 500893-72-1P
500893-73-2P 500893-74-3P 500893-75-4P 500893-76-5P

500893-77-6DP, reaction products with polylysine 500893-78-7DP,
reaction products with polyproline 500893-79-8P 500893-80-1P

500893-81-2P 500893-82-3P 500893-83-4P 500893-84-5P

500893-85-6P 500893-86-7P 500893-87-8P 500893-88-9P

500893-89-0P 500893-90-3P 500893-91-4P 500893-92-5P

500893-93-6P 500893-94-7P 500893-95-8P 500893-96-9P

500893-97-0P 500893-98-1P 500893-99-2P 500894-00-8P

500894-02-0P 500894-03-1P 500894-04-2P 500894-05-3P

500894-06-4P 500903-96-8P 500903-97-9P 500903-98-0P

500903-99-1P 500904-02-9P 500904-05-2P 500904-06-3P

500904-07-4P 500904-08-5P 500904-09-6P 500904-10-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL

(Biological study); PREP (Preparation); USES (Uses)

(preparation of novel ascorbic acid lysinate or prolinate derivs.)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L64 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1995:813670 HCAPLUS Full-text

DOCUMENT NUMBER: 123:222623

TITLE: Antiviral effect of lithium-ascorbate
derivatives

AUTHOR(S): Kang, Kil-Jin; Murata, Akira

CORPORATE SOURCE: Dept. of Food Science and Technology, Chonnam
National University, Kwangju, 500-757, S.
Korea

SOURCE: Han'guk Yongyang Siklyong Hakhoechi (1995),
24(3), 466-9

CODEN: HYSHDL; ISSN: 0253-3154

PUBLISHER: Korean Society of Food and Nutrition

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 27 Sep 1995

AB The effect of lithium-ascorbate derivs. on viruses was investigated using a wide
variety of bacterial viruses (phage). Lithium-ascorbate derivs. exerted an inactivating
effect on all phages examined. Lithium-ascorbate derivs. have antiviral effects. The
antiviral effect of lithium 2-o-octadecyl ascorbate was stronger than that of lithium
ascorbate. Even at 10-20 times lower concentration, lithium 2-o-octadecyl ascorbate
showed phage-inactivating activity very similar to that of ascorbate and lithium
ascorbate.

IT 168325-63-1

RL: BAC (Biological activity or effector, except adverse); BSU

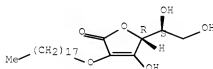
(Biological study, unclassified); BIOL (Biological study)

(antiviral effect of lithium-ascorbate derivs.)

RN 168325-63-1 HCAPLUS

CN L-Ascorbic acid, 2-O-octadecyl-, monolithium salt (9CI) (CA INDEX
NAME)

Absolute stereochemistry.



● L1

CC 10-5 (Microbial, Algal, and Fungal Biochemistry)

IT 80781-74-4, Lithium-ascorbate 168325-63-1

RL: BAC (Biological activity or effector, except adverse); BSU

(Biological study, unclassified); BIOL (Biological study)
(antiviral effect of lithium-ascorbate derivs.)

L64 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:558105 HCAPLUS Full-text
DOCUMENT NUMBER: 121:158105
TITLE: Preparation of lithium salt of
2-O-alkylascorbic acid
INVENTOR(S): Shimizu, Tadakazu; Kaneko, Tatsuhiko
PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9407883	A1	19940414	WO 1993-JP1409	1993 1001
W: AU, CA, FI, JP, KR, NO, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CN 1093360	A	19941012	CN 1993-114166	1993 0930
AU 9348347	A	19940426	AU 1993-48347	1993 1001
EP 619313	A1	19941012	EP 1994-911773	1993 1001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
NO 9402013	A	19940531	NO 1994-2013	1994 0531
FI 9402597	A	19940602	FI 1994-2597	1994 0602
PRIORITY APPLN. INFO.:			JP 1992-264696	A 1992 1002
			WO 1993-JP1409	W 1993 1001

OTHER SOURCE(S): MARPAT 121:158105

ED Entered STN: 01 Oct 1994

AB A lithium salt of a 2-O-Cl4-18 alkylascorbic acid, useful for preventing or treating circulatory function disorder, is prepared Thus, 0.37 g Li2CO3 was added portionwise to a stirred suspension of 4.28 g 2-O-octadecylascorbic acid (I) in 150 mL H2O followed by adding 50 mL EtOH to form a homogeneous clear solution which was filtered, evaporated, and lyophilized to give a powder. This powder was washed with acetone and dried in a desiccator under reduced pressure to give 4.0 g I.Li. I.Li at 300 µM in vitro inhibited 75% lipid peroxidase in rat liver microsome preparation and 59% phospholipid hydrolase derived from a pig spleen and at 80µM inhibited 93.6% GST-cdc25Hu2 (protein dephosphorylase), which indicated free radical-quenching and anticancer activity, resp. It also in vivo inhibited cardiac infarction in heart ischemia-induced rats. Tablets containing 3 or 500 mg I.Li per tablet were formulated.

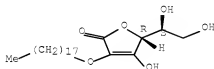
IT 157425-35-9P
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, as free radical inhibitor, anticancer agent, and cardiovascular agent)

RN 157425-35-9 HCAPLUS

CN L-Ascorbic acid, 2-O-octadecyl-, lithium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



• 14

IC ICM C07D307-62

ICS A61K031-375

CC 33-8 (Carbohydrates)

Section cross-reference(s): 1, 63

IT 157425-35-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, as free radical inhibitor, anticancer agent, and cardiovascular agent)

=> d 164 9 ibib ed ab hit ind

L64 ANSWER 9 OF 9 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation
on STN

ACCESSION NUMBER: 2001:68991 BIOSIS [Full-text](#)

DOCUMENT NUMBER: PREV200100068991

TITLE: Effect of antioxidants on radical intensity and cytotoxicity of hydroquinone.

AUTHOR(S): Terasaka, Hiroshi; Takayama, Fumitoshi; Satoh, Kazue; Fujisawa, Seiichi; Sakagami, Hiroshi
[Reprint author]

CORPORATE SOURCE: Department of Dental Pharmacology, Meikai University School of Dentistry, Sakado, Saitama, 350-0283, Japan

sakagami@dent.meikai.ac.jp

SOURCE: Anticancer Research, (September-October, 2000) Vol. 20, No. 5B, pp. 3357-3362. print.
CODEN: ANTRD4. ISSN: 0250-7005.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 31 Jan 2001

Last Updated on STN: 15 Feb 2002

ED Entered STN: 31 Jan 2001

Last Updated on STN: 15 Feb 2002

AB Hydroquinone (HQ) dose-dependently reduced the viable cell number of oral tumor cell lines (HSC-2, HSG). HQ induced internucleosomal DNA fragmentation in human promyelocytic leukemia HL-60 cells, but not in HSC-2 nor HSG cells. Cytotoxic activity of HQ was slightly reduced by catalase, but was enhanced by superoxide dismutase, suggesting the possible involvement of hydrogen peroxide in HQ-induced cytotoxicity. This was supported by slight increase or decrease of cytotoxicity of HQ in the presence of Cu²⁺ and Fe³⁺, respectively. Lower concentrations of sodium ascorbate, ascorbic acid and ascorbic acid 6-palmitate reduced both the radical intensity and cytotoxic activity of HQ, more efficiently than ascorbic acid 2,6-dipalmitate, in contrast to the cytotoxic action of these ascorbates at higher (millimolar) concentrations. Popular antioxidants such as N-acetyl-L-cysteine and cysteine also reduced the radical intensity

and cytotoxic activity of HQ. The present study suggests that cytotoxic activity of HQ is generated by radical-mediated oxidation mechanism.

IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Tumor Biology

IT Chemicals & Biochemicals
DNA: fragmentation; N-acetyl-L-cysteine: antioxidant; ascorbic acid: antioxidant; ascorbic acid 2,6-dipalmitate: antioxidant; ascorbic acid 6-palmitate: antioxidant; catalase; copper ion; cysteine: antioxidant; hydrogen peroxide; hydroquinone: cytotoxicity, radical intensity; iron ion; sodium ascorbate: antioxidant; superoxide dismutase

RN 616-91-1 (N-acetyl-L-cysteine)
50-81-7Q (ascorbic acid)
62624-30-0Q (ascorbic acid)
4218-81-9 (ascorbic acid 2,6-dipalmitate)
137-66-6 (ascorbic acid 6-palmitate)
9001-05-2 (catalase)
52-90-4Q (cysteine)
3374-22-9Q (cysteine)
7722-84-1 (hydrogen peroxide)
123-31-9 (hydroquinone)
134-03-2 (sodium ascorbate)
9054-89-1 (superoxide dismutase)

CC Biochemistry studies - Proteins, peptides and amino acids 10064
Cytology - General 02502
Cytology - Human 02508
Biochemistry studies - General 10060
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biochemistry studies - Vitamins 10063
Biochemistry studies - Minerals 10069
Enzymes - General and comparative studies: coenzymes 10802
Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Tumor Biology

IT Chemicals & Biochemicals
DNA: fragmentation; N-acetyl-L-cysteine: antioxidant; ascorbic acid: antioxidant; ascorbic acid 2,6-dipalmitate: antioxidant; ascorbic acid 6-palmitate: antioxidant; catalase; copper ion; cysteine: antioxidant; hydrogen peroxide; hydroquinone: cytotoxicity, radical intensity; iron ion; sodium ascorbate: antioxidant; superoxide dismutase

ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
HL-60 cell line: human promyelocytic leukemia cells
HSC-2 cell line: human oral squamous cell carcinoma cells
HSG cell line: human salivary gland tumor cells
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

RN 616-91-1 (N-acetyl-L-cysteine)
50-81-7Q (ascorbic acid)
62624-30-0Q (ascorbic acid)
4218-81-9 (ascorbic acid 2,6-dipalmitate)
137-66-6 (ascorbic acid 6-palmitate)
9001-05-2 (catalase)
52-90-4Q (cysteine)
3374-22-9Q (cysteine)
7722-84-1 (hydrogen peroxide)
123-31-9 (hydroquinone)
134-03-2 (sodium ascorbate)
9054-89-1 (superoxide dismutase)

FULL SEARCH HISTORY

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(FILE 'HOME' ENTERED AT 08:40:04 ON 04 JAN 2008)

FILE 'HCAPLUS' ENTERED AT 08:40:14 ON 04 JAN 2008

E US20070167517/PN

L1 1 SEA ABB=ON PLU=ON US20070167517/PN
D ALL
SEL RN

FILE 'REGISTRY' ENTERED AT 08:41:35 ON 04 JAN 2008

L2 10 SEA ABB=ON PLU=ON (111-64-8/BI OR 112-67-4/BI OR
15042-01-0/BI OR 34371-16-9/BI OR 494748-99-1/BI OR
50-81-7/BI OR 657394-76-8/BI OR 785814-43-9/BI OR
785814-44-0/BI OR 785814-45-1/BI)
D SCAN

FILE 'LREGISTRY' ENTERED AT 08:42:37 ON 04 JAN 2008

FILE 'REGISTRY' ENTERED AT 08:43:11 ON 04 JAN 2008

L3 3 SEA ABB=ON PLU=ON L2 AND 1/NR
D SCAN
D SCAN L2
D 1-3
L4 STR 50-81-7

FILE 'REGISTRY' ENTERED AT 08:52:46 ON 04 JAN 2008

L5 0 SEA SSS SAM L4

FILE 'LREGISTRY' ENTERED AT 08:53:03 ON 04 JAN 2008

L6 STR L4

FILE 'REGISTRY' ENTERED AT 08:53:36 ON 04 JAN 2008

L7 31 SEA SSS SAM L6

FILE 'LREGISTRY' ENTERED AT 08:54:38 ON 04 JAN 2008

L8 D QUE STAT L7
STR L6

FILE 'REGISTRY' ENTERED AT 08:55:45 ON 04 JAN 2008

L9 11 SEA SSS SAM L8
D SCAN

FILE 'LREGISTRY' ENTERED AT 08:56:40 ON 04 JAN 2008

L10 D QUE STAT
STR L8

FILE 'REGISTRY' ENTERED AT 09:00:10 ON 04 JAN 2008

L11 0 SEA SSS SAM L10

FILE 'LREGISTRY' ENTERED AT 09:00:36 ON 04 JAN 2008

L12 STR L10

FILE 'LREGISTRY' ENTERED AT 09:01:23 ON 04 JAN 2008

FILE 'REGISTRY' ENTERED AT 09:01:29 ON 04 JAN 2008

L13 0 SEA SSS SAM L12
D QUE STAT L9
L14 275 SEA SSS FUL L8
SAV TEMP L14 CHA757REG/A
L15 4 SEA ABB=ON PLU=ON L14 AND 1/M
D SCAN

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L16      STR

FILE 'REGISTRY' ENTERED AT 09:06:49 ON 04 JAN 2008
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L18      25 SEA SUB=L14 SSS FUL L16
          SAV L18 CHA757REGA/A
          D SCAN
          D SCAN L15
L19      5 SEA ABB=ON PLU=ON L18 AND 2/NC
          D SCAN
          SAV L19 CHA757REGB/A

FILE 'HCAPLUS' ENTERED AT 09:11:01 ON 04 JAN 2008
L20      6 SEA ABB=ON PLU=ON L19
          D SCAN
L21      4 SEA ABB=ON PLU=ON L15
L22      6 SEA ABB=ON PLU=ON L20 OR L21
          E AMMONIUM/CT
          E E3+ALL
          E QUATERNARY/CT
          E QUATERNARY/CT
L23      1 SEA ABB=ON PLU=ON (QUATERNARY+PFT,OLD,NT/CT OR
          "QUATERNARY AMMONIUM COMPOUNDS"+PFT,OLD,NT/CT OR
          "QUATERNARY AMMONIUM COMPOUNDS, USES AND MISCELLANEOUS"+
          PFT,OLD,NT/CT)
          D SCAN
          E QUATERNARY/CT
          E QUATERNARY AM/CT
L24      41057 SEA ABB=ON PLU=ON "QUATERNARY AMINES"+PFT,OLD,NT/CT
          E QUATERNARY AMMONIUM/CT
L25      69540 SEA ABB=ON PLU=ON (QUATERNARY OR QUATERNARY) (A) (AMINE
          OR AMMONIUM)
          E QUATERNARY AMMONIUM/CT
L26      199071 SEA ABB=ON PLU=ON "QUATERNARY AMMONIUM COMPOUNDS"+PFT
          ,OLD,NT/CT
L27      199071 SEA ABB=ON PLU=ON L24 OR L26
L28      232 SEA ABB=ON PLU=ON L14
L29      2 SEA ABB=ON PLU=ON L28 AND (L23 OR L27)
          D SCAN
L30      1 SEA ABB=ON PLU=ON L28 AND L25
          D SCAN
L31      8 SEA ABB=ON PLU=ON L22 OR L29 OR L30
          SAV L31 CHA757HCP/A
          DEL SEL
          D L1 AU
          SEL L1 AU
L32      37 SEA ABB=ON PLU=ON ("BABISOV, VLADIMIR"/AU OR
          "BELAKHOV, VALERY"/AU OR "KVITNITSKY, EMMA"/AU OR
          "SHAPIRO, YURY"/AU)
          D L1 PA

FILE 'ZCAPLUS' ENTERED AT 09:29:48 ON 04 JAN 2008
          E BABISOV V/AU
L33      QUE ABB=ON PLU=ON BABISOV V7/AU
          E BELAKHOV V/AU
L34      QUE ABB=ON PLU=ON BELAKHOV V7/AU
          E KVITNITSKY E/AU
L35      QUE ABB=ON PLU=ON KVITNITSKY E7/AU
          E SHAPIRO V/AU
L36      QUE ABB=ON PLU=ON SHAPIRO V7/AU
L37      QUE ABB=ON PLU=ON (L33 OR L34 OR L35 OR L36)

FILE 'HCAPLUS' ENTERED AT 09:33:40 ON 04 JAN 2008
L38      330 SEA ABB=ON PLU=ON (L33 OR L34 OR L35 OR L36)
L39      0 SEA ABB=ON PLU=ON L36 AND ((L33 OR L34 OR L35))

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D L1 AU
L40 QUE ABB=ON PLU=ON SHAPIRO Y?/AU
L41 466 SEA ABB=ON PLU=ON (L33 OR L34 OR L35) OR L40
L42 5 SEA ABB=ON PLU=ON ((L33 OR L34 OR L35)) AND L40
DEL SEL
SEL L1 PA
L43 4 SEA ABB=ON PLU=ON "TAGRA BIOTECHNOLOGIES LTD
ISRAEL"/PA,CS,SO,CO
L44 4 SEA ABB=ON PLU=ON (L32 OR L41) AND L43
L45 5 SEA ABB=ON PLU=ON L42 OR L44
D SCAN L1
L46 37 SEA ABB=ON PLU=ON L45 OR L32
L47 QUE ABB=ON PLU=ON ASCORB? OR VIT OR VITAM?
L48 5 SEA ABB=ON PLU=ON L46 AND L47
L49 1 SEA ABB=ON PLU=ON L46 AND L31
L50 5 SEA ABB=ON PLU=ON (L48 OR L49)
SAV TEMP L50 CHA757HCPIN/A

FILE 'REGISTRY' ENTERED AT 09:40:33 ON 04 JAN 2008
L51 3 SEA ABB=ON PLU=ON L14 AND (MEDLINE/LC OR BIOSIS/LC
OR DRUGU/LC OR EMBASE/LC)
D SCAN

FILE 'MEDLINE, BIOSIS, DRUGU, EMBASE' ENTERED AT 09:42:36 ON 04
JAN 2008
D QUE STAT L18
L52 0 SEA ABB=ON PLU=ON L15 OR L18 OR L19
L53 100 SEA ABB=ON PLU=ON L51
T 1-3
L54 1 SEA ABB=ON PLU=ON L53 AND (L25 OR CATION? OR ION OR
IONIC)
D SCAN
L55 73 SEA ABB=ON PLU=ON L53 AND L47

FILE 'ZCAPLUS' ENTERED AT 09:48:53 ON 04 JAN 2008
L56 QUE ABB=ON PLU=ON PY<2004 OR PRY<2004 OR AY<2004 OR
MY<2004 OR REVIEW/DT

FILE 'MEDLINE, BIOSIS, DRUGU, EMBASE' ENTERED AT 09:49:19 ON 04
JAN 2008
L57 72 SEA ABB=ON PLU=ON L55 AND L56
L58 39 SEA ABB=ON PLU=ON L32
L59 1 SEA ABB=ON PLU=ON L48
L60 1 SEA ABB=ON PLU=ON ((L33 OR L34 OR L35)) AND (L40 OR
L36)
L61 0 SEA ABB=ON PLU=ON L44
L62 1 SEA ABB=ON PLU=ON (L59 OR L60 OR L61)
SAV TEMP L62 CHA757MULTIN/A
SAV TEMP L54 CHA757MULT/A

FILE 'STNGUIDE' ENTERED AT 09:56:31 ON 04 JAN 2008
D QUE L50
D QUE L60

FILE 'HCAPLUS, BIOSIS' ENTERED AT 09:59:05 ON 04 JAN 2008
L63 6 DUP REM L50 L60 (0 DUPLICATES REMOVED)
ANSWERS '1-5' FROM FILE HCAPLUS
ANSWER '6' FROM FILE BIOSIS
D L63 1-6 IBIB ED AB
D QUE STAT L31
D QUE STAT L54
L64 9 DUP REM L31 L54 (0 DUPLICATES REMOVED)
ANSWERS '1-8' FROM FILE HCAPLUS
ANSWER '9' FROM FILE BIOSIS
D L64 1-8 IBIB ED ABS HITSTR HITIND
D L64 9 IBIB ED AB HIT IND

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